Methodology Report

Transportation System Development Charges

Prepared For

Prepared By

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Executive Summary

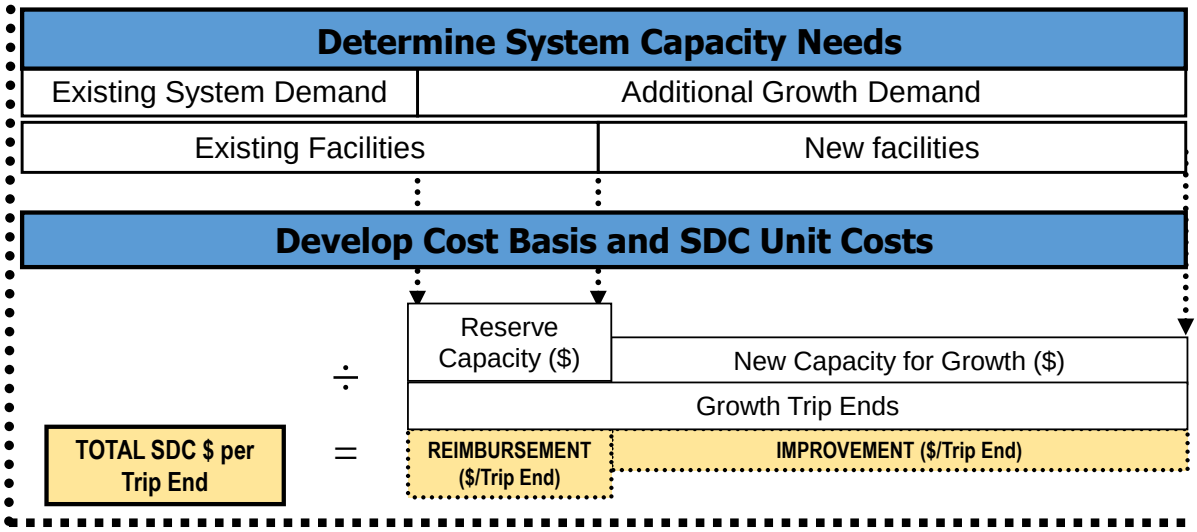
Background

The City of Springfield (the City) embarked on an effort to update its transportation system development charges (SDCs) in October 2013. The objectives of the SDC update were to develop a new project list and SDC fees that reflected the recently adopted Transportation System Plan (TSP), and to work with a Citizen Advisory Committee (CAC) to review certain SDC-related policy issues. This methodology report presents the recommended SDC methodology and updated fees based on the revised project list. A separate report was prepared by City staff for the CAC policy recommendations.

The updated SDC methodology follows the same basic approach as the current SDCs, and is based on a combined reimbursement and improvement structure. This structure, which is shown graphically in Figure 1, consists of the following three elements:

1. Determine capacity needs
2. Develop cost basis
3. Develop SDC unit costs

FIGURE 1—OVERVIEW OF SDC METHODOLOGY



Existing system demand is evaluated against existing system capacity to determine available (or reserve) capacity in the system for future growth. Planned improvements from the TSP are evaluated to determine the portion of new capacity that is needed for future growth, as opposed to capacity that enhances the level of service for existing development. The reimbursement fee cost basis is equal to the value of available (reserve) capacity in the system, and the improvement fee cost basis is equal to the portion of future capital costs

needed to meet growth's additional capacity needs (above what is already available in the system).

The cost bases are divided by the forecast growth in trip ends to determine the reimbursement and improvement costs per trip end. The reimbursement fee and improvement fees for individual developments are determined by multiplying the fees per trip end by the number of trips attributed to that development. Consistent with Oregon SDC statutes, a compliance charge is added that reflects the city's administration of the SDC program. The three components together determine the total SDC payable (reimbursement fee plus improvement fee plus compliance charge).

Major Findings

Improvement Fee Cost Basis

A summary of the SDC improvement project costs by project type is provided in Table ES-1. As shown in Table ES-1, the SDC Project list includes $463 million of planned improvements and related studies within the 20-year planning period. The planned improvements include new facilities and upgrades to existing facilities in order to increase capacity and improve the level of performance of the transportation system. When the project costs are reduced by projected external funding sources, as well as existing deficiency costs, the net project costs allocated to growth are about $52 million (about 11 percent of total project costs.)

Table ES-1
City of Springfield SDC Analysis
Summary Transportation System Project Costs

Project Category	Total $	Growth $	Growth %
State Facilities			
Intersections	$90,000,000	$9,000,000	10%
Roadways	$11,600,000	$392,400	3%
Roadway Improvements	$306,700,000	$29,424,496	10%
Intersection Improvements	$10,070,000	$5,150,843	51%
Bike Facilities	$660,000	$44,681	7%
Multi Use Paths	$29,597,000	$2,445,093	8%
Pedestrian Improvements			
Sidewalks	$790,000	$723,468	92%
Crossings	$6,090,000	$1,198,047	20%
Signage Only	$70,000	$0	0%
Multimodal Improvements	$5,130,000	$3,007,285	59%
Studies	$1,650,000	$288,750	18%
Other Projects	$600,000	$400,000	67%
Total	$462,957,000	$52,075,064	11%

Reimbursement Fee Cost Basis

The reimbursement fee is calculated based on the estimated replacement cost of reserve capacity from arterial and collector streets, exclusive of grants and contributions. Existing system value reflects improved and partially improved City funded facilities only. Costs

include street surfacing and curb and gutter costs only; sidewalks, bike lanes, and intersection facilities (signals and roundabouts) costs are excluded, as existing bike and pedestrian facilities are assumed to meet existing development need under the proposed methodology. Existing intersection facilities are assumed to meet existing mobility standards. The total value of the existing arterial and collector roadway system included in the reimbursement fee is estimated to be $105.8 million, of which about $26.6 million represents the estimated City-funded cost. Growth is allocated approximately $2.6 million (10 percent) of existing system value, based on the estimated reserve capacity for in-City development.

Maximum-Allowable SDC Schedule

Based on the updated improvement and reimbursement SDC cost bases, the maximum-allowable cost per average weekday trip is equal to $339.55, and is comprised of the following components:

$323.42 (improvement fee) + $16.14 (reimbursement fee) = $339.55 combined fee

In addition, local governments are entitled to include in the SDCs, a charge to recover costs associated with complying with the SDC law. Compliance costs include costs related to developing and administering the SDC methodology, project list, and credit system, as well as annual accounting costs. The compliance charge is five percent, and is assessed on a customer's total SDC bill.

The transportation SDC for an individual development is based on the cost per trip, and the number of trips attributable to a particular development, where the number of development trips is computed as follows:

Number of Development Trips = Trip Generation Rate X Adjustment Factors X Development Units

The standard practice in the transportation industry is to use Institute of Transportation Engineers (ITE) trip generation rates to determine the SDCs for *individual* developments. Adjustment factors applied to base trip rates reflect pass-by and diverted linked trip factors for some land uses. Pass-by trips refer to trips that occur when a motorist is already on the roadway, as in the case of a traveler stopping by a fast-food restaurant on the way home from work. In this case, the motorist making a stop while "passing by" is counted as a trip generated by the restaurant, but it does not represent a new (or primary) trip on the roadway. A diverted linked trip is a similar type of non-primary trip but in this case the motorist will divert from a primary route to access a nearby use (e.g., a vehicle may turn off a major roadway onto an intersecting street to access a land use), and then return to the original route to complete the trip.

Based on the SDCs presented in this report, and the most current version of the ITE Trip Generation Manual, the SDC for a single family dwelling unit (with an average trip rate of 9.57) is $3,250 (excluding the compliance charge).

Report Contents

This methodology report is organized as follows:

- **Executive Summary –** Provides a summary of the SDC methodology and major project findings.
- **Section 1 – Introduction –** Provides background on transportation SDCs in Springfield, and summarizes the project objectives and SDC statutory requirements.
- **Section 2 – Capacity Analysis –** Presents the approaches used to allocate future project costs and existing system value between existing development and growth.
- **Section 3 – Cost Basis –** Summarizes the reimbursement and improvement costs, based on the approaches and assumptions presented in Section 2 and the project list.
- **Section 4 – System Development Charges –** Provides information on system-wide unit costs, the process for assessing SDCs to individual developments, and method for updating for future cost escalation.

SECTION 1

Introduction

Background

The City of Springfield (City) last updated its transportation system development charges (SDC) in 2008, following the methodology established in a comprehensive review and update in 2000. In March 2014, the City adopted a new Transportation System Plan (TSP) that identifies system improvements needed to meet current and future development needs. The objectives of the current SDC review process (which began in October 2013), included:

- Develop a revised SDC methodology that is consistent with current industry standards, Oregon SDC statutes and the City's current policy framework.
- Develop updated SDC rates that recover the estimated growth-related project costs from the recently adopted TSP.
- Work with a Citizen Advisory Committee (CAC) to evaluate selected policies and procedures related to the SDC methodology and administration.

This report describes the updated SDC methodology and calculations for the City's transportation system. The revised methodology and calculations are consistent with the framework set forth by Oregon SDC legislation (ORS 223.297-314), and the recommendations of the Springfield Transportation SDC CAC, both of which are discussed below.

Citizen Advisory Committee

In September 2013, the City engaged a group of stakeholders to review specific policy issues related to the Transportation SDCs. The CAC met six times between October 2013 and April 2014. Feedback collected through these meetings helped formulate the SDC methodology and calculations presented in this report.

Specific CAC recommendations (documented in greater detail in a memorandum to the City Council dated April 16, 2014) are summarized below:

- Assume 10 percent local funding match on State and Federal TSP projects. Recommendation accepted by City Council.
- Do not include debt service cost in the methodology until such time as the City issues debt for system improvements that is backed by transportation-specific fees and charges (e.g. revenue bonds). Recommendation accepted by City Council.

- Continue to base default estimates of trip rates for individual developments on data from the Institute of Traffic Engineers (ITE) trip generation manual[1]. Recommendation accepted by City Council.
- Do not include a mechanism in the methodology to provide specific incentives for mixed-use and transit-oriented development. Recommendation accepted by City Council.
- Continue to adjust SDCs annually based on the Engineering News Record (ENR) Construction Cost Index (20-City average). Recommendation accepted by City Council.
- Limit interim SDC adjustments to inflationary changes; do not reconcile and update SDCs as individual projects are completed. Recommendation accepted by City Council.
- Expand the City's SDC financing program to support commercial/industrial development. Program should include provisions for interest charges and securing repayment through lien. Recommendation not accepted by City Council. The City will continue with its current policy.

Oregon SDC Law

Oregon Revised Statutes 223.297-223.314 authorize local governments to assess SDCs for the following types of capital improvements:

- Drainage and flood control (i.e., storm water)
- Water supply, treatment, and distribution
- Wastewater collection, transmission, treatment, and disposal
- Transportation
- Parks and recreation

In addition to specifying the infrastructure systems for which SDCs may be assessed, the SDC legislation provides guidelines on the calculation and modification of SDCs, accounting requirements to track SDC revenues, and the adoption of administrative review procedures. A summary of key provisions is provided below.

SDC Structure

Oregon law allows that an SDC may include a reimbursement fee, an improvement fee, or a combination of the two.

Reimbursement Fee

The reimbursement fee is based on the value of available reserve capacity associated with capital improvements already constructed or under construction. The methodology used to calculate the reimbursement fee must consider the cost of existing facilities, prior contributions by existing users, the value of unused capacity, grants, and other relevant

[1] The City will continue its policy to allow developers to submit project-specific trip data for consideration in establishing SDCs.

factors. The objective of the reimbursement fee methodology is to require new users to contribute an equitable share of the capital costs of existing facilities. When new users pay for their share of the available reserve capacity through the SDC reimbursement fee, the money received can be used to fund other capital needs (e.g., system replacements).

Improvement Fee

The improvement fee is designed to recover all or a portion of the costs of planned capital improvements that add system capacity to serve future users.

An increase in system capacity may be established if a capital improvement increases the level of performance or service provided by existing facilities or provides new facilities. The portion of the improvements funded by improvement fees must be related to the need for increased capacity to provide service for future users. [ORS 223.307(2)]

Credits

The legislation requires that a credit be provided against the improvement fee for the construction of "qualified public improvements." Qualified public improvements are improvements that are required as a condition of development approval, identified in the system's capital improvement program, and either (1) not located on or contiguous to the property being developed, or (2) located in whole or in part, on or contiguous to, property that is the subject of development approval and required to be built larger or with greater capacity than is necessary for the particular development project to which the improvement fee is related.

Review and Notification Requirements

The methodology for establishing or modifying improvement or reimbursement fees shall be available for public inspection. The local government must maintain a list of persons who have made a written request for notification prior to the adoption or amendment of such fees. The notification requirements for changes to the fees that represent a modification to the methodology are 90-day written notice prior to first public hearing, with the SDC methodology available for review 60 days prior to public hearing.

Other Provisions

Other provisions of the legislation require:

- Preparation of a capital improvement program or comparable plan (prior to the establishment of a SDC), that includes a list of the improvements that the jurisdiction intends to fund with improvement fee revenues and the estimated timing, cost, and eligible portion of each improvement.
- Deposit of SDC revenues into dedicated accounts and annual accounting of revenues and expenditures, including a list of the amount spent on each project funded, in whole or in part, by SDC revenues.
- Creation of an administrative appeals procedure, in accordance with the legislation, whereby a citizen or other interested party may challenge an expenditure of SDC revenues.

The provisions of the legislation are invalidated if they are construed to impair the local government's bond obligations or the ability of the local government to issue new bonds or other financing.

SECTION 2

Determine Capacity Needs

Introduction

The capacity analysis forms the basis for determining the costs that will be recovered from growth through the SDCs. To comply with Oregon SDC law and industry standard practices, new development cannot be charged for costs associated with capacity needed to serve existing development– either in the form of used capacity on existing facilities or future expansion needed to remedy existing deficiencies. To be defensible, the methodology must:

- Specify how capacity will be defined (e.g., volume, volume/capacity ratio, etc.)
- Evaluate existing facility capacity to determine whether existing mobility standards are being met, or if there are existing deficiencies.
- Identify the list of projects needed to address growth needs and remedy existing deficiencies.
- Allocate project costs between growth and existing development, based on the portion of each project that relates to providing capacity for growth vs. addressing an existing deficiency or future service level enhancement related to existing development.

This section describes the approach to determining growth capacity needs in general, and the methodologies used to determine growth's share of costs for different types of improvements.

System-Wide Growth Capacity Requirements

To evaluate the roadway capacity needs and the amount of vehicle trips that are generated by existing and future development, the regional travel demand model was utilized. Specifically, the base year travel demand model was utilized to approximate the existing number of trips using the City street network. The future year (2035) travel demand model was utilized to determine the growth in trips generated within the City's currently acknowledged Urban Growth Boundary (UGB), as well as to evaluate how the "growth trips" would utilize the roadway network within the City.

Table 2-1 lists the total number of trip ends for the base year and future year scenarios, broken down by trip ends that stay within the City's UGB and trip ends that have one end outside of the City's UGB. As listed, the total number of trip ends is forecasted to grow from 657,472 to 818,488. The growth in average daily trip ends (161,016) represents about 20 percent of the total year 2035 projections.

Table 2-1
Model Vehicle Average Daily Trip Ends (Within the City's currently acknowledged UGB)

	Internal-Internal	Internal-External & External-Internal	Total
Existing Trip Ends	271,968	385,504	657,472
Projected Trip Ends	353,816	464,672	818,488
Growth Trip Ends	**81,848**	**79,168**	**161,016**

Project Cost Allocations

The system-wide growth in trips will be accommodated by existing roadway reserve capacity, as well as planned future capacity expansion. Capacity expansion comes in the form of both new facilities and expansion of existing facilities. According to SDC statutory requirements: "An increase in system capacity may be established if a capital improvement increases the level of performance or service provided by existing facilities or provides new facilities." A key component of the SDC methodology is allocation of existing facility and planned future facility costs to growth, in proportion to estimated capacity requirements.

For purposes of determining potential SDC-eligibility, individual projects are analyzed to determine: 1) the portion of project costs that expand capacity versus replace existing capacity, and 2) the portion of capacity costs needed for future growth requirements versus existing development deficiencies.

The portion of project costs that are associated with rehabilitation or replacement of existing capacity are not SDC-eligible. Two general methods are used for determining the growth portion of capacity costs for each project:

1. **Standards-Based approach** – where the allocation of capacity costs to existing development is limited to correcting any existing deficiency. Existing deficiencies are evaluated based on current performance relative to the appropriate planning/design standard for the particular improvement. For intersections, the standard is a "volume-capacity ratio (v/c ratio)"[2]. For multimodal improvements, the standard is linear feet per capita of bikeways and pedestrian ways.

2. **Capacity Utilization approach** – Improvements to existing facilities to address safety, modernization, and other performance considerations provide capacity for growth and enhanced performance for existing development, so the costs are allocated in proportion to the utilization of the facilities, as determined for each improvement individually.

Table 2-2 provides a summary of the allocation basis for existing and future development by major project type.

[2] Volume-to-capacity ratio is defined as motor vehicle trips divided by the hourly capacity of the facility to serve those trips.

Table 2-2
Summary of Project Capacity Cost Allocations – Future Improvements

Project Type	Existing Share	Future Development Share
Roadway projects, crossings other improvements	Existing development trips as a percent of total future 2035 trips	Future development trips as a percent of total future 2035 trips
Intersection Facilities	Limited to existing deficiency (e.g., v/c ratio > 1.0)	100% - Existing Deficiency
Multimodal Facilities	Limited to existing deficiency (i.e., increase in level of service defined by linear feet per capita)	100% - Existing Deficiency
Studies	Existing development trips as a percent of total future 2035 trips	Future development trips as a percent of total future 2035 trips

The cost allocation approaches that form the basis of this methodology are described below.

Roadway Improvements

For expansion/upgrade of existing facilities (i.e., road widening and extension and urban upgrades), daily traffic volumes by roadway link (from the City's travel demand model) were used to quantify growth's utilization of future roadway capacity. Growth capacity utilization is estimated based on the growth in trips over the planning period, as a percentage of total future trips for individual roadway links.

Intersection Improvements

Existing operating conditions were evaluated to determine if facilities were meeting City and State operational requirements. This information was compiled from the City's recently completed TSP. Based on this analysis none of the intersections included on the project list were failing to meet required standards based on existing conditions.

Bike and Pedestrian Improvements

Unlike roadway and intersection projects, trip data for bike and pedestrian improvements is not available. Therefore, a defensible basis for determining growth capacity needs for bike and pedestrian facilities is a planned level of service (LOS) basis. The planned LOS is defined as the quantity of future facilities per 1,000 population served.

The following equation shows the calculation of the planned LOS:

$$\frac{Existing\ Q + Planned\ Q}{Future\ Population\ Served} = Planned\ LOS$$

Where:

Q = quantity (miles of bike or pedestrian facilities), and
Future Population Served (within the UGB) = 84,830

The existing and future miles of bike and pedestrian facilities are shown in Table 2-3. The current inventory was provided by City staff, and is adjusted for facilities owned by the

Willamalane Park & Recreation District. The additional miles are based on the project list (excluding Willamalane Park & Recreation District facilities).

Table 2-3

Existing and Future Bike and Pedestrian Facilities

Facility Type	Current (Miles)	Additional (miles) Ped/Bike Projects	Additional (miles) Road Projects	Future (Miles)
Multi Use Path[1]	4.0	11.0	0	15.0
Bike Lanes[2]	37.8	10.4	45.2	93.4
Sidewalks [3]	93.4	2.9	45.2	141.5

[1]City-owned paved shared use paths

[2]Bike lanes only; does not include bike shoulders

[3]On improved and partially improved arterials and collectors

The City's population forecasts for existing and 2035 conditions are presented in Table 2-4. Growth during the planning period is estimated to be 17,147 people.

Table 2-4

Current and Future Population

	Current	Future	Growth
Population	67,683	84,830	17,147

Table 2-5 presents the existing and future LOS for bike and pedestrian facilities, based on the existing and planned future facilities presented in Table 2-3 divided by the existing and projected 2035 population presented in Table 2-4. In all cases, the planned LOS is higher than the existing LOS, which means that there are existing deficiencies for bike and pedestrian improvements, so a portion of future improvements are needed by existing development.

Table 2-5

Existing and Future Bike and Pedestrian LOS

	Miles/1,000 People	
Facility Type	Current	Future
Multi Use Path	0.059	0.176
Bike Lanes	0.558	1.102
Sidewalks	1.380	1.668

The capacity requirements, or miles, needed for the existing population and for growth are shown in Table 2-6 and estimated by multiplying the planned (future) LOS for each facility type (from Table 2-5) by the population of each group (from Table 2-4)

Table 2-6

Existing and Growth Capacity Needs

Facility Type	Total Miles Needed		
	Current	Growth	Total
Multi Use Path	11.9	3.0	15.0
Bike Lanes	74.6	18.9	93.4
Sidewalks	112.9	28.6	141.5

Existing users' needs are assumed to be met first by the existing inventory of facilities; any shortfall is assumed to be provided from planned improvements. Therefore, the additional need for facilities by the existing population is equal to the total inventory needed (from Table 2-6) less the existing inventory (from Table 2-3). For example, the planned LOS results in a total need of 11.9 miles of multi-use paths for existing development. The current inventory of 3.98 miles is deducted from the total need to yield an additional need of 7.9 miles.

Table 2-7 shows the existing and growth allocation for the planned improvements by project type. For the multi-use paths, the growth need is equal to 3.0 miles, so the additional 11.0 miles of path are allocated 72 percent and 28 percent, respectively to existing and growth. For bike projects, the overall growth need is 34 percent (18.9 miles) of the planned additional bike lanes; however, the majority of improvements are in conjunction with roadway projects, and as such are allocated in proportion to future auto trip volumes. As shown in Table 2-7, the roadway project allocations result in 17.8 miles of bike lane costs allocated to growth, so there is an additional need of 1.0 miles (10 percent) from the stand-alone bike projects. Similarly for sidewalk improvements, the roadway allocations result in 17.8 miles of new sidewalks allocated to growth. However, the total growth need is 28.6 miles, so 100 percent of the stand-alone sidewalk costs on the project list are allocated to growth.

Table 2-7

Allocation of Additional Facilities

	Miles Added for			% Allocation	
	Existing[1]	Growth	**Total**	**Existing**	**Growth**
Multi Use Path	7.9	3.0	11.0	72%	28%
Bike Lanes	36.8	18.9	55.6	66%	34%
Road Projects[2]	27.3	17.8	45.1	60%	40%
Bike Projects	9.5	1.0	10.5	90%	10%
Subtotal	36.8	18.9	55.6		
Sidewalks	19.5	28.6	48.1		
Road Projects	27.3	17.8	45.1	60%	40%
Pedestrian Projects	0.0	2.9	2.9	0%	100%
Subtotal	27.3	20.7	48.0		

[1] Existing need assumed to be met first by current facilities

[2] Road project allocations reflect each group's share of future auto trip volumes

Existing System Reserve Capacity

The regional travel model was used to determine the portion of the existing roadway network that has reserve capacity for growth. The reserve capacity of the roadway system was determined by comparing the traffic volume on each roadway to the capacity of that roadway. If the total volume in 2035 exceeded the capacity, the amount of capacity available for growth was calculated as a ratio of the capacity less the existing daily traffic volume to the capacity. If the future volume was less than capacity, the amount available for growth was calculated as a simple ratio of the future volume less the existing volume to the capacity of the particular roadway. The results of this analysis indicate a reserve capacity of 11.7 percent system-wide.

SECTION 3

Cost Basis

Introduction

The improvement and reimbursement cost bases represent the total costs of growth related capacity through 2035, as determined by the cost allocation analysis described in Section 2. The value of existing system capacity is referred to as the reimbursement fee cost basis, while the value of future growth-related improvement costs is referred to as the improvement fee cost basis.

The development of the cost basis generally involves the following key steps:

1. The portion of total project costs related to increasing system capacity is determined.
2. Capacity costs are reduced by projected external funding amounts (assessments, grants, contributions by other agencies) to determine local share of costs.
3. Local capacity costs are reduced by the portion of capacity for through trips (trips with neither an origin nor destination within the planning area).
4. Net capacity costs are allocated between growth and existing development, based on the portion of each project that relates to providing capacity for growth vs. addressing an existing deficiency or future service level enhancement related to existing development (as described in Section 2).

The development of the improvement and reimbursement cost bases are summarized below.

Improvement Fee

The improvement fee cost basis is summarized by major project component in Table 3-1. The total cost of improvements on the project list is about $463 million. The growth portion (i.e., the improvement fee cost basis) is about $52 million. The following subsections describe the methodology related to the development of the cost basis for each major category of projects.

Table 3-1
City of Springfield SDC Analysis
Summary of Improvement Fee Cost Basis

Project Category	Total $	Growth $	Growth %
State Facilities			
Intersections	$90,000,000	$9,000,000	10%
Roadways	$11,600,000	$392,400	3%
Roadway Improvements	$306,700,000	$29,424,496	10%
Intersection Improvements	$10,070,000	$5,150,843	51%
Bike Facilities	$660,000	$44,681	7%
Multi Use Paths	$29,597,000	$2,445,093	8%
Pedestrian Improvement			
Sidewalks	$790,000	$723,468	92%
Crossings	$6,090,000	$1,198,047	20%
Signage	$70,000	$0	0%
Multimodal Improvements	$5,130,000	$3,007,285	59%
Studies	$1,650,000	$288,750	18%
Other Projects	$600,000	$400,000	67%
Total	$462,957,000	$52,075,064	11%

Roadway Projects

New Capacity Share
For roadway projects, non-capacity costs include overlay and restriping of existing roadways, and reconstruction of existing facility costs as identified in the detailed project costs developed for the TSP.

Local Cost Share
Roadway projects are assumed to have an external funding share consistent with the historical system average.

Local Growth Capacity Share

All local roadway capacity costs are reduced by 16.4 percent for through trips. As described in Section 2, the growth share of the net capacity costs is determined by traffic volumes on the specific roadway, or nearby intersection (where the specific segment was not modeled).

Intersection Projects

New Capacity Share
For intersection projects, non-capacity costs are assumed to be limited to reconstruction of existing facility costs (e.g., rebuilding signals and islands) as identified in the detailed project costs developed for the TSP

Local Cost Share
Intersection projects are assumed to have external funding consistent with the historical average.

Local Growth Capacity Share
All intersection capacity costs are reduced by 16.4 percent for through trips. The growth share of local capacity cost is equal to the 100 percent minus any existing deficiency cost.

State Facilities

New Capacity Share
An individual determination of capacity share was not determined for each State facility because it is assumed that the external funding (assumed to be 90 percent of the project cost) will fund any non-capacity costs and capacity associated with through trips.

Local Cost Share
All State facilities are assumed to have 90 percent external funding (10 percent local match).

Local Growth Capacity Share
State facilities include both roadway and intersection projects. For roadway projects, the local growth capacity share is based on projected volume of growth trips relative to the total 2035 volumes. For intersections, the growth share is equal to 100 percent less any current operational deficiency.

Bike and Pedestrian Facilities

New Capacity Share

The following costs are excluded from the SDC cost basis:

- Projects that are limited to signage and pavement markings for bike routes
- Projects that improve intersection visibility only
- Striping/signage improvements only
- The portion of pedestrian projects that relate to bike route signage
- Costs associated with overlaying existing roadways

Local Cost Share
The cost basis calculations reflect external funding assumptions by project type, based on the City's projections.

Local Growth Capacity Share

Regional projects funded by Willamalane Park & Recreation District are excluded from the SDC cost basis. Other projects are assumed to have 100 percent local capacity, and the growth portion is based on the LOS analysis presented in Section 2, with the exception of pedestrian crossings which are allocated to growth in proportion to system-wide share of 2035 auto trips (20 percent).

Reimbursement Fee

The reimbursement fee was developed using the same methodology as the City's prior update. As shown in Table 3-2, the replacement cost of the existing arterial and collector network[3] is estimated, and external funding is deducted from the total, along with remaining outstanding bond principal associated with the transportation system.

Table 3-2
City of Springfield Transportation SDC Methodology
Reimbursement Fee Cost Basis

Component		Replacement $
Improved Arterials		$56,242,385
Improved Collectors		$49,539,939
Less Outstanding Debt Principal		-$952,500
Less External Funding	74.0%	-$78,263,072
Net Project Cost		$26,566,752
Available Capacity Cost	11.7%	$3,108,310
Local Growth Cost Basis	**83.6%**	**$2,598,370**

The net project cost is then multiplied by the estimated available capacity in the existing system and the "local" growth cost (net of through trips), to determine the SDC cost basis of $2.6 million.

[3] Reflects improved and partially improved City funded facilities. Costs include street surfacing and curb and gutter costs only; sidewalks, bike lanes, and intersection facilities (signals and roundabouts) costs are excluded, as existing bike and pedestrian facilities assumed to meet existing development need under the LOS approach.

SECTION 4

System Development Charges

Introduction

The transportation SDC for an individual development is based on a unit cost per trip – the SDC cost basis divided by the system-wide growth in trips -- and the number of trips attributable to a particular development. This section presents the unit costs per trip, based on the approaches described previously, and the growth in trips estimated in the City's traffic model.

Unit Costs ($/Trip)

Based on the SDC project list, and the cost allocation approaches outlined in Sections 2 and 3, the total cost per average daily trip is equal to $339.55, as shown in Table 4-1, and is comprised of the following components:

$323.42 (improvement fee) + $16.14 (reimbursement fee)

Table 4-1
City of Springfield Transportation SDC Methodology
Transportation System Unit Costs of Capacity ($/Trip)

	Improvement SDC	Reimbursement SDC	Combined SDC
Cost Basis (1)	$52,075,064	$2,598,370	$54,673,434
Growth Trip Ends (2)	161,016	161,016	161,016
SDC per Trip End	**$323.42**	**$16.14**	**$339.55**

(1) From Tables 3-1 and 3-2
(2) From Table 2-1

SDC Assessment

The transportation SDC for an individual development is based on the cost per trip (including the reimbursement and improvement fees) and the number of trips (average daily) attributable to a particular development, where the number of development trips is computed as follows:

Number of Development Trips = Trip Generation Rate X Adjustment Factors X Development Units

Trip Generation Rates

The City will continue to use the Institute of Transportation Engineers (ITE) average daily trip generation rates to determine the SDCs for *individual* developments. Use of ITE trip generation data is standard in the transportation industry. ITE trip rates by land use are based on studies from around the country, and in the absence of local data, represent the best available source of trip data for specific land uses.

Adjustment Factors

An adjustment factor for trip-length has been applied by some other jurisdictions. However, the available data to reasonably estimate average trip length for a given land use type in comparison to other uses is extremely limited. Furthermore, trip length may be more directly attributable to location within an area and the availability of other similar uses in the area than it is to simply the type of use. Therefore, trip-length adjustments are not included in this methodology.

Pass-by trip adjustments are applied to the ITE trip rates for certain land use types. Pass-by trips refer to trips that occur when a motorist is already on the roadway, as in the case of a traveler stopping by a fast-food restaurant on the way home from work. In this case, the motorist making a stop while "passing by" is counted as a trip generated by the restaurant, but it does not represent a new (or primary) trip on the roadway. Pass-by adjustments are included in the methodology based on ITE rates.

A diverted linked trip is another type of non-primary trip but in this case the motorist will divert from a primary route to access a nearby use (e.g., a vehicle may turn off a major roadway onto an intersecting street to access a land use), and then return to the original route to complete the trip. Diverted linked trip adjustments are included in the methodology based on ITE rates.

Exceptional Users

By necessity, an SDC calculation methodology must employ a variety of assumptions about the nature of demands placed by future system users, the costs and timing of growth-related capital improvements, and system capacity use. There are limits to how precise these assumptions may be because of data availability to address all development types. For most new developments, the margin of error in predicting system impact is within an acceptable range. However, it is possible that one or a few exceptional prospective users alone may have sufficient impact on future system use and capital improvements to invalidate certain basic assumptions of a particular SDC calculation.

It is recommended that for developments determined during staff review, to exhibit trip characteristics significantly different from those on which the existing rate is based, the City Traffic Engineer will assign a trip rate based on the best available information at the time of actual SDC calculations.

Alternative Trip Generation Calculation

The City's local land use code contains provisions to require a Traffic Impact Analysis (TIA) to be submitted and approved for certain types of developments. Developments that must comply with the TIA requirements are provided with an opportunity to combine that process with a request for an optional alternate trip rate calculation. The data requirements for each process are similar, and taking this into account helps facilitate the establishment of data needed for the alternate trip rate calculation earlier in the development planning process.

Compliance Charges

The City applies a 5 percent compliance charge on the total SDC for a particular development (including the revised transportation SDCs presented in this report), to recover the costs associated with complying with the SDC statutes. The analysis related to the compliance charge was conducted and adopted as part of the City's prior SDC analysis.

Annual Inflationary Adjustments

The City's current SDC policies, adopted by separate City Council action, provide for annual adjustments to SDC rates based upon an inflationary index. The City currently uses the ENR 20-City Construction Cost Index as the basis for adjusting all of its SDCs.